AMENDMENTS TO THE CLAIMS

Claims 1-27 (Cancelled)

Claim 28 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray incident side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray incident side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive, and

wherein a thickness of the UV adhesive is no more than 1/20 of a thickness of at least one of the first and second optically anisotropic crystal plates and the first and second substrates.

Claim 29 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray exit side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray exit side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive, and

wherein a thickness of the UV adhesive is no more than 1/20 of a thickness of at least one of the first and second optically anisotropic crystal plates and the first and second substrates.

Claim 30 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray incident side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray incident side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein one of the second optically anisotropic crystal plate and the second substrate is an end face on a ray exit side of the optical filter,

wherein one of the first optically anisotropic crystal plate and the first substrate is (i) thinner than the one of the second optically anisotropic crystal plate and the second substrate that is the end face on the ray exit side of the optical filter and (ii) stuck, using the UV adhesive, to one of the second optically anisotropic crystal plate and the second substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive and the second optically anisotropic crystal plate and the second substrate are stuck together using the UV adhesive, and

wherein a thickness of the UV adhesive is no more than 1/20 of a thickness of at least one of the first and second optically anisotropic crystal plates and the first and second substrates.

Claim 31 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray incident side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray incident side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive, and

wherein an amorphously bonded optical coating is formed on at least one of the end face on the ray incident side of the optical filter and an end face on a ray exit side of the optical filter.

Claim 32 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray exit side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray exit side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive, and

wherein an amorphously bonded optical coating is formed on at least one of an end face on a ray incident side of the optical filter and the end face on the ray exit side of the optical filter.

Claim 33 (New) An optical filter for varying optical characteristics of a ray transmitted by an optically anisotropic crystal plate, the optical filter comprising:

a plurality of optically anisotropic crystal plates; and

a plurality of substrates,

wherein a first optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a first substrate of the plurality of substrates are stuck together such that a principal face of the first optically anisotropic crystal plate and a principal face of the first substrate are perpendicular to a direction of the transmission of the ray,

wherein one of the first optically anisotropic crystal plate and the first substrate is an end face on a ray incident side of the optical filter,

wherein one of a second optically anisotropic crystal plate of the plurality of optically anisotropic crystal plates and a second substrate of the plurality of substrates is (i) thinner than the one of the first optically anisotropic crystal plate and the first substrate that is the end face on the ray incident side of the optical filter and (ii) stuck, using a UV adhesive, to one of the first optically anisotropic crystal plate and the first substrate,

wherein one of the second optically anisotropic crystal plate and the second substrate is an end face on a ray exit side of the optical filter,

wherein one of the first optically anisotropic crystal plate and the first substrate is (i) thinner than the one of the second optically anisotropic crystal plate and the second substrate that is the end face on the ray exit side of the optical filter and (ii) stuck, using the UV adhesive, to one of the second optically anisotropic crystal plate and the second substrate,

wherein the first optically anisotropic crystal plate and the first substrate are stuck together using the UV adhesive and the second optically anisotropic crystal plate and the second substrate are stuck together using the UV adhesive, and

wherein an amorphously bonded optical coating is formed on at least one of the end face on the ray incident side of the optical filter and the end face on the ray exit side of the optical filter.

Claim 34 (New) The optical filter according to claim 28, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 35 (New) The optical filter according to claim 29, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 36 (New) The optical filter according to claim 30, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 37 (New) The optical filter according to claim 31, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 38 (New) The optical filter according to claim 32, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group

consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 39 (New) The optical filter according to claim 33, wherein each of the optically anisotropic crystal plates is a crystal plate and each of the substrates is selected from a group consisting of a glass substrate, a resin substrate, and a transparent substrate.

Claim 40 (New) The optical filter according to claim 28, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on an end face on a ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 41 (New) The optical filter according to claim 29, wherein the first substrate is a principal face on an end face on a ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 42 (New) The optical filter according to claim 30, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 43 (New) The optical filter according to claim 31, wherein the first substrate is a

principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on an end face on a ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 44 (New) The optical filter according to claim 32, wherein the first substrate is a principal face on an end face on a ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 45 (New) The optical filter according to claim 33, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein a portion of the first substrate and the second substrate includes an optical coating.

Claim 46 (New) The optical filter according to claim 28, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on an end face on a ray exit side of the optical filter and wherein the first substrate and the second substrate have the same thickness.

Claim 47 (New) The optical filter according to claim 29, wherein the first substrate is a principal face on an end face on a ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein the first

substrate and the second substrate have the same thickness.

Claim 48 (New) The optical filter according to claim 30, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein the first substrate and the second substrate have the same thickness.

Claim 49 (New) The optical filter according to claim 31, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on an end face on a ray exit side of the optical filter and wherein the first substrate and the second substrate have the same thickness.

Claim 50 (New) The optical filter according to claim 32, wherein the first substrate is a principal face on an end face on a ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein the first substrate and the second substrate have the same thickness.

Claim 51 (New) The optical filter according to claim 33, wherein the first substrate is a principal face on the end face on the ray incident side of the optical filter and the second substrate is a principal face on the end face on the ray exit side of the optical filter and wherein the first substrate and the second substrate have the same thickness.

Claim 52 (New) The optical filter according to claim 28, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a phase between the ordinary ray and the extraordinary ray.

Claim 53 (New) The optical filter according to claim 29, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a phase between the ordinary ray and the extraordinary ray.

Claim 54 (New) The optical filter according to claim 30, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a phase between the ordinary ray and the extraordinary ray.

Claim 55 (New) The optical filter according to claim 31, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a

phase between the ordinary ray and the extraordinary ray.

Claim 56 (New) The optical filter according to claim 32, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a phase between the ordinary ray and the extraordinary ray.

Claim 57 (New) The optical filter according to claim 33, wherein the optical filter functions as a phase plate, wherein a plurality of optically anisotropic crystal plates of different thickness are layered over one another, wherein an incoming ray is split into an ordinary ray and an extraordinary ray, and wherein the optical characteristics of the incoming ray are varied by a phase between the ordinary ray and the extraordinary ray.

Claim 58 (New) The optical filter according to claim 28, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.

Claim 59 (New) The optical filter according to claim 29, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and

an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.

Claim 60 (New) The optical filter according to claim 30, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.

Claim 61 (New) The optical filter according to claim 31, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.

Claim 62 (New) The optical filter according to claim 32, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.

Claim 63 (New) The optical filter according to claim 33, wherein the optical filter functions as an optical low pass filter, wherein an incoming ray is split into an ordinary ray and an extraordinary ray by the first optically anisotropic crystal plate, and wherein the optical characteristics of the incoming ray are varied by imparting a specific optical separation direction and a specific separation width between the ordinary ray and the extraordinary ray.